

Factors of a Brain Compatible Classroom

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Factors	Concepts/Ideas/Thoughts to Remember
Novelty Wake up those brains with stimulation, change and novelty.	
Emotion Emotions and feelings are biologically linked to learning.	
Meaning The brain thrives on meaning, not random information.	
Need Why am I learning this? Do I feel it is important? Do I want to hold on to it?	

Novelty:

Mystery Object

When it comes to learning, the brain is more receptive to questions than answers. (Eric Jensen, 1997)

Choose any object and place it in a bag that conceals its identity. Have students ask questions about the mystery object. The rules of the game are set to match your purpose. You may decide whether or not you wish to allow questions to which you can answer only yes or no, or if they would be allowed to ask questions where more detailed explanations are given. You may also limit the number of questions asked in total, or you may ask each student to ask one question.

Another variation is use an object that students have not seen before. They may view and touch the object and then ask their questions.

Use the mystery object to introduce a new unit, a single lesson, or just to get their brains working!

Brain Boosters

Brain boosters can be a Problem of the Day - write a problem on the board each morning. As your students are coming in to the classroom and waiting for the announcements, they study the problem and try to solve it. Word problems or picture problems can be used, anything that engages their mind.

For example: If 7 cars are lined up in a row, and each car is touching the car in front of them, how many bumpers are touching each other? (12)

Y Y U R
Y Y U B
I C U R
Y Y 4 ME

Answer: Too wise you are
too wise you be
I see you are
too wise for me.

KNEE
LICHTS (neon lights)

Many more examples of brain boosters can be found linked to the Learning Plus website at <http://web.rbe.sk.ca/learningplus> or at www.school.discovery.com/brainboosters

Using Your “Muscle” Memory (also known as procedural memory)

Procedural memory is knowing *how* versus knowing *what*.
(Patricia Wolfe, 2001)

Any activity that incorporates the use of the body, or body movements in learning, cements itself into long-term memory quickly because your body has been involved.

Classroom examples:

- Use your arms and legs to teach parts of geometry. Holding arms out straight is an example of a line, closed fists is a line segment. Use arms and legs to show different types of angles.
- "Become" the integer and move on the number line as you learn to add integers. Include music such as "Do the Hustle" and students will be participating in the Number Line Hustle!
- Have students add actions when learning new vocabulary words.
Example: idiopathic is an unknown illness - have students "act sick", rub their stomachs, hold their heads, etc.

Games

Many common games are good for the brain. According to Eric Jensen (1997) the single, number one, all-time best activity for greater brain growth is problem solving. The best problems to solve involve the following conditions:

- They must be novel (change the content and process of the games often).
- They must be challenging (make sure the difficulty level is appropriate).
- They must be non-threatening (everyone can contribute).
- They need to stimulate emotions (anxiety, joy, anticipation, surprise and celebration).

Suggestions:

- Use well known games as a review or in preparation for a test. Some favourites include Jeopardy, Wheel of Fortune and Who Wants to Be a Millionaire.

- Have students create their own games to teach other students. The effectiveness of a game is enhanced when students actually help to design or construct it. (Patricia Wolfe, 2001)
- An idea for involving all students in answering questions is to toss a nerf ball to the student who is to respond. The student gets one point for catching the ball and two points for answering the question correctly. This student can then randomly pick the student who will answer the next question and toss the ball to that student. (Marcia Tate, 2003)

Emotion:

Emotion is a double-edged sword, with the ability to enhance learning or impede it. (Patricia Wolfe, 2001)

Too much stress, anger and fear shuts the brain down. When there is threat blood gets sent to the arms and legs from the brain. That is why the brain doesn't work well when we are mad, scared, etc. (Marcia Tate, 2006). However, feelings are critical to the learning process in many ways. Our feelings help us determine:

- If we want to learn a subject
- How we feel about a subject
- Whether we want to learn about a subject
- If we believe the information is true
- How long we remember the information

(Eric Jensen, 1997)

So if we are aware of the delicate balance of emotions that is needed for learning what can we do in our classrooms?

Suggestions:

- Put learners into a positive state before learning. Set a positive tone in your classroom. This can be achieved through positive affirmations - "turn to the person beside you and tell them they are wonderful". Begin the day by reciting "we're great and getting greater!"
- Engage emotions while learning. Use drama, simulations, storytelling, music and movement.
- Include laughter in your day. ☺ When students laugh together, they bond together and create a community spirit conducive to learning (David Sousa, 2001). Starting a lesson with a joke or humorous story is a good way to get the learner's attention.

Meaning:

Without meaning, learners lose interest and intrinsic motivation wanes (Eric Jensen. 1997).

One of the most effective ways to make information meaningful is to hook the unfamiliar with something familiar. We call this velcro learning. If learners can't velcro new information to ideas, experiences or information in our brain, the brain will quickly discard it.

Our brains are constantly seeking out connections and work like a filing cabinet. In order to make experiences become part of our long-term memory we need to attach them to a prior memory or

previous experience. The "file" we have in our "filing cabinet" (our brain). So, how can we make learning more meaningful and build on what students already know?

Suggestions:

Activate prior knowledge through:

- Quick writes - brief one minute write everything you can think of about.... or quick draws (for our visual learners)
- KWLW charts - have students make a chart at the beginning of a unit/lesson with the headings Know, Want to Know, Learned, Still Want to Know.
- Brainstorming about a topic
- Response journals
- Discussions
- Webs/charts

References/Useful Resources

Jensen, Eric (1997). *Brain compatible strategies*. San Diego, CA: The Brain Store, Inc.

Tate, Marcia L. (2003). *Worksheets don't grow dendrites*. Thousand Oaks, CA: Corwin Press, Inc.

Wolfe, Patricia (2001). *Brain matters translating research into classroom practice*. Alexandria, VA: Association for Supervision and Curriculum Development.